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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WENDEROTH, LIND & PONACK, L.L.P.

1030 15th Street, N.W.,

Suite 400 East

Washington, DC 20005-1503

EXAMINER

YANG, JIE

ART UNIT

PAPER NUMBER

1793

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,108	Applicant(s) REISO ET AL.	
	Examiner JIE YANG	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5, 7, and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/09/2009 has been entered.

Status of the Claims

Claims 1-4 and 6 have been cancelled, claim 1 has been amended; and claims 5, 7, and 8 remain in examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata (JP 60204857, thereafter JP'857).

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Regarding the preamble limitation of "useful for extrusion purpose" in claim 5, which is recognized as an intended use of the aluminum base alloy, the limitation does not add patentable weight for the instant process claims. See MPEP 2111.02 II.

Regarding claims 5 and 7, JP'857 teaches an Al alloy with Mg and Si for extrusion application (Abstract of JP'857). The comparisons of compositions between the instant invention and JP'857 are listed in following table. All of the composition ranges disclosed by JP'857 (Abstract, claims 1-2, and discussions in page 315 Col.2, 5th paragraph of JP'875) overlap the composition ranges of the instant invention, which is a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the claimed compositions Mg, Si, Mn, S, Cr, Zn, Cu, Fe, and Al as recited in the instant claims 5 and 7 from the composition disclosed by JP'857 because JP'857 discloses the same utility throughout the disclosed ranges. SEE MPEP 2144.05 I. JP'857 teaches adding Ti (0-1wt%) and/or B (0-1wt%) as grain refining agent and including unintentional impurities (Abstract of JP'857), which reads on the limitation of in addition grain refining elements and incidental impurities as recited in the instant claim 5. The composition range of Ti and/or B of

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JP'857's alloy overlaps the range of up to 0.1wt% grain refining elements as recited in the instant claim 5.

Element	From instant Claim 5 and 7 (in wt%)	JP'857 (in wt%)	Overlapping range (in wt%)
Mg	0.35-0.5	0-10	0.35-0.5
Si	0.35-0.6	0-11.6	0.35-0.6
Mn	0.03-0.06 (claim 5)	0-10	0.03-0.06 (claim 5)
Cr	0.05	0-1	0.05
Zn	0.15	0-15	0.15
Cu	0.1	0-10	0.1
Fe	0.08-0.28 (claim 5); 0.18-0.25 (claim 7)	0-10	0.08-0.28 (claim 5); 0.18-0.25 (claim 7)
Al	Balance	Balance	Balance

Regarding claim 8, the claim is written in the product-by-process format. There is no evidence that the claimed process limitation would render the claimed product unobvious over the aluminum alloy of JP'857. See MPEP 2113.

Claims 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parson et al (US 6,440,359 B1, thereafter, US'359) in view of Ohyama et al (US 6,355,090 B1, thereafter US'090).

Regarding claims 5 and 7, US'359 teaches an aluminum alloy of composition and incidental impurities up to 0.05 each 0.15 total, which can be extruded at high speed to provide extruded section which meet T5 and T6 strength requirements (Abstract of

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US'359). The comparisons of compositions between the instant invention and US'359 are listed in following table. The major composition ranges disclosed by US'359 (Table 1, claims, and examples of US'359) overlap the composition ranges of the instant invention. US'359 teaches optional adding Ti (0.007-0.01wt%) and B (0.001wt%) as grain refiners (Examples tables 1-3 and claim 1 of US'359). US'359 teaches adding 0.34%Mg in the alloy, which is close to the low limit of 0.35wt%Mg as recited in the instant claim, which is a prima facie case of obviousness. SEE MPEP 2144.05 I.

Element	From instant Claim 5 and 7 (in wt%)	US'359 (in wt%)	Overlapping range (in wt%)
Mg	0.35-0.5	0.2-0.34	--
Si	0.35-0.6	0.35-0.60	0.35-0.6
Mn	0.03-0.06 (claim 5)	0-0.15	0.03-0.06 (claim 5)
Cr	0.05	--	--
Zn	0.15	0.006-.007	--
Cu	0.1	0-0.25	0.1
Fe	0.08-0.28 (claim 5); 0.18-0.25 (claim 7)	0-0.35	0.08-0.28 (claim 5); 0.18-0.25 (claim 7)
Al	Balance	Balance	Balance

Still regarding claim 5, US'359 does not specify adding 0.05wt%Cr and 0.15wt%Zn in the alloy. US'090 teaches an aluminum alloy for automotive parts by extruded operation (Abstract, Col.11, lines 45-63, and table 3-4 of US'359). The major composition ranges disclosed by JP'090 (Col.2, line 39 to col.3,

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line 56, and claims 5-8 of JP'090) overlap the composition ranges of the instant invention. US'090 teaches adding 0.1 to 1.2wt% Zn and 0.01 to 0.2 wt% Cr in the aluminum alloy, which cover the 0.15wt% Zn and 0.05wt% Cr as recited in the instant claim 5. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a proper amount of Cr and Zn as demonstrated by US'090 in the alloy of US'359 because US'090 teaches the proper amount of Zn can enhance the strength of an aluminum wrought alloy and the proper amount of Cr can contribute to improve bending property and toughness of the resultant alloy (Col.6, lines 44-63 of US'090).

Regarding claim 8, the claim is written in the product-by-process format. There is no evidence that the claimed process limitation would render the claimed product unobvious over the aluminum alloy of US'359 in view of US'090. See MPEP 2113. The Examiner further notes that US'359 specifies to perform the extrusion operation at temperature of 450°C (Col.7, lines 16-35 and Fig.14-15 of US'359), which is within the extrusion temperature range (430-510°C) as recited in the instant claim.

Response to Arguments

Applicant's arguments with respect to claims 5, 7, and 8 have been fully considered but they are not persuasive. Regarding the arguments which are related to the amended features in the instant claims, the Examiner's position is stated as above. The Applicants further argue:

The narrow additions of Mn in combination with small and narrow additions of Mg and Si have a positive effect on the extrudability of AlMgSi alloy. In addition to promoting the transformation of the AlFeSi inter-metallic phase, AlMnFeSi dispersoid particles are formed during homogenization. If more than 0.06wt%Mn is added to the alloys there is a negative effect on the quenching sensitivity of the extruded profile, which is not disclosed or suggested in the prior arts.

In response:

as pointed in the rejection for claims of 5, 7, and 8 above, JP'857 or US'359 in view of US'090 teaches aluminum alloy with composition ranges overlapping the composition ranges of the instant invention (US'359 teaches adding up to 0.15wt% Mn and a narrow range 0.03-0.10 wt%Mn -- table in col.2 of US'359), which overlaps 0.03-0.06 wt%Mn as recited in the instant claim 5), which is a prima facie case of obviousness. SEE MPEP 2144.05 I. The examiner notes that the asserted feature of "containing a certain amount of AlMnFeSi dispersoid particles" in the argument is not included in the instant claims. If the Applicant would like to argue the unexpected results from the selection of a narrow alloy composition, the evidence in a "132 declaration" in comparison with the recoded prior arts is required.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jie Yang whose telephone number is 571-2701884. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-2721244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JY

/Roy King/
Supervisory Patent Examiner, Art Unit 1793